

REMARKS

This is in full and timely response to the Final Office Action dated December 7, 2006. A Petition for a One Month Extension of Time and a Request for Continued Examination are filed concurrently herewith. The present Amendment amends claims 1-6, 8-9, 11, and 13, and cancels claims 7, 10, 12, and 14 without prejudice or disclaimer. The subject matter of canceled claims 7, 10, 12, and 14 has been incorporated into independent claim 1. Amendments to claims 2-6, 8-9, 11, and 13 are amended in light of the incorporation of the above subject matter into claim 1. Support for these amendments can be found variously throughout the specification, including, for example, original claims 7 and 10, and previously presented claim 14.

No new matter has been added. Accordingly, claims 1-6, 8-9, 11, and 13 are presently pending in this Application, each of which is believed to be in immediate condition for allowance. Reexamination and reconsideration in light of the above amendments and following remarks are respectfully requested.

Claim 1

In claim 1, an upper limitation for the solvent vapor pressure at 20°C of 13 kPa is added with this Amendment. The limitation finds support in the Specification at page 10, lines 1 and 2. In particular, the vapor pressures of the solvents disclosed at 20°C are: Methanol, 12.8 kPa; Ethanol, 5.9 kPa; 1-Propanol, 1.87 kPa; 2-Propanol, 4.3 kPa; 1-Butanol, 0.6 kPa; 2-Butanol, 1.73 kPa; and t-Butanol, 4 kPa.

Declaration under 37 C.F.R. § 1.132

A Declaration under 37 C.F.R. § 1.132 will be filed shortly. The Declaration demonstrates the unexpected and superior results obtained by the presently claimed invention, which has a surface roughness of 5 nm or less.

Claim Rejections- 35 U.S.C. § 112

In the Action, claims 1-14 were rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the enablement requirement. Applicant respectfully traverses this

rejection. However, in order to expedite prosecution, independent claim 1 has been amended to remove the inclusion of “a wetting regulating agent.” Additionally, claim 1 has been amended to specify that the antirusting lubricant consists of a phosphoric acid ester surfactant. Withdrawal of this rejection is therefore courteously solicited.

Claim 4 was rejected under 35 U.S.C. § 112, first paragraph, for allegedly failing to comply with the written description requirement. Attached herewith is a product guide entitled “Joncryl® Selection Guide” published by the manufacturer of the JONCRYL® acrylic resins utilized in the embodiments disclosed in the present Specification. For Example, Table 1 of the present Specification shows the use of JONCRYL 60® and HPD-96® as the acrylic water soluble resin components in the disclosed embodiments. The chart in the “Joncryl® Selection Guide,” on the page labeled as page 7, shows the weight average molecular weight of both JONCRYL 60® and HPD-96®, as shown in the column labeled “(Mw).” “Mw” is well known in the art to be representative of weight average molecular weight, as opposed to “Mn” which is representative of number average molecular weight. The “Joncryl® Selection Guide” shows that JONCRYL 60® has a weight average molecular weight of 8,500 and HPD-96® has a weight average molecular weight 16,500. Accordingly, the written description requirement is satisfied in regards to claim 4, and withdrawal of this rejection is respectfully requested.

Claim Rejections- 35 U.S.C. § 103

Claim 1-6 and 13-14 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 6,916,862 to Ota et al. (“Ota”) in view of U.S. Publication No. 2005/0096410 to Hattori et al. (“Hattori”) and U.S. Patent No. 6,114,412 to Kanbayashi et al. (“Kanbayashi”). Claims 7 – 11 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Ota in view of Hattori and Kanbayashi, and further in view of U.S. Patent No. 5,678,942 to Kobayashi et al. (“Kobayashi”). Claim 12 was rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Ota in view of Hattori and Kanbayashi, and further in view of either GB 2131445 or U.S. Patent No. 4,338,133 to Toyoda et al. (“Toyoda”) and U.S. Patent No. 5,268,347 to Okumura et al. (“Okumura”). Claim 1-6 and 13-14 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Ota in view of Hattori, Kanbayashi, and either GB 2131445 or Toyoda and Okumura.

Claims 7-11 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over Ota in view of Hattori, Kanbayashi, and either GB 2131445 or Toyoda and Okumura, and further in view of Kobayashi. Claims 1-3, 5, and 12-14 were rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent No. 6,160,034 to Allison et al. ("Allison") in view of Hattori, Kanbayashi, and either GB 2131445 or Toyoda and Okumura.

Claim 1 as amended recites "[a] ball-point pen comprising, at a tip portion of an ink tube, a ball-point pen tip rotatably supporting a ball either directly or across a tip holder, wherein an ink is directly filled in the ink tube, wherein the ink comprises a solvent consisting essentially of a water and an alcoholic solvent, said solvent having a vapor pressure at 20°C of 0.5 kPa or higher, a pigment constituting a coloring material, an antirusting lubricant consisting of phosphoric acid ester surfactant, and a water-soluble resin constituting a writing fixing agent, wherein an ink viscosity at 20°C is within a range of 5 to 30 mPa·s, and wherein the ball pen tip is formed by a stainless steel material and the ball has a surface roughness of 5 nm or less in an arithmetic average."

The combination of the ballpoint pen and ink as claimed in claim 1 produces the **unexpected and superior property of writing on non-permeable surfaces**. As stated in the specification, "the [invention] provides an ink for a ball-point pen ... [that] enables the writing on the non-permeable surface not achievable with a ball-point pen, thereby greatly expanding the application of the ordinary ball-point pen, and a ball-point pen utilizing such ink" (see page 4, line 24 through page 5, line 4 of the present Specification, see also Tables 1 and 2).

In contrast to claim 1, each of the prior art references cited in the Office Action fails to disclose, teach, or even suggest the combination of a ball point pen and ink composition as disclosed in claim 1. Each of the references also fails to disclose, teach, or even suggest the unexpected and superior properties exhibited by the presently claimed invention.

An argument is made in the Office Action that Ota teaches a ball-point pen capable of writing on a non-permeable surface. However, this is an improper and unsupported inference. Ota mentions that the ink disclosed may be used in a ballpoint pen, amongst other various applications. Ota then shows in an example of an inkjet depositing ink on a glossy film. There is no suggestion in Ota, however, that a ballpoint pen might be utilized for writing on a glossy film.

Inkjet printers eject ink onto a substrate. In sharp contrast, ballpoint pens deposit ink by the action of a ball in the ballpoint pen tip rolling on the substrate. In the process of rolling, the ball deposits a film of ink directly onto the substrate. Precise factors, such as the rotation of the ball and the viscosity of the ink, *inter alia*, are involved in the mechanism of ballpoint pen operation. Accordingly, Ota fails to suggest the combination of a ballpoint pen and ink composition capable of writing on a non-permeable surface, and provides no support for the suggestion that the ink disclosed would be suitable for such a use.

Additionally, while both Ota and Hattori arguably disclose alcohol solvents having a vapor pressure of above 0.5kPa, **neither Ota nor Hattori discloses a solvent comprising both water and alcohol**. In contrast to Ota and Hattori, if an ink composition having only alcohol as the solvent is used, the ink composition has problems of inferiority in written line drying property, written line stability, and blurring property

Accordingly, there is no suggestion or motivation in the prior art to combine the references to arrive at the claimed invention. Thus, the elements from the prior art cited in the Office Action are only combinable through the use of hindsight reconstruction.

Further, even assuming, *arguendo*, a *prima facie* case of obviousness has been shown, the showing is rebutted by the demonstration of unexpected and superior results exhibited by the presently claimed invention. *See, e.g., In re Soni*, 54 F.3d 746, 34 USPQ2d 1684 (Fed. Cir. 1995) (“[W]hen an applicant demonstrates substantially improved results... and states that the results were unexpected, this should suffice to establish unexpected results in the absence of evidence to the contrary”); *Id.* (“that which would have been surprising to a person of ordinary skill in a particular art would not have been obvious.”). Accordingly, withdrawal of the rejection of claim 1 is respectfully requested.

Moreover, aside from the novel limitations recited therein, claims 2-6, 8-9, 11, and 13, being dependent either directly or indirectly upon allowable base claim 1, are also allowable for at least the reasons set forth above. Withdrawal of the rejection of these claims is therefore courteously solicited.

CONCLUSION

For at least the foregoing reasons, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the examiner is respectfully requested to pass this application to issue. If the examiner has any comments or suggestions that could place this application in even better form, the examiner is invited to telephone the undersigned attorney at the below-listed number.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 18-0013, under Order No. KKP-0276 from which the undersigned is authorized to draw.

Dated: April 9, 2007

Respectfully submitted,

By 

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Attachments: Joncryl® Selection Guide, pp. 5-7